WHAT IS CLAIMED IS:

1. A method for transmitting information, the method comprising:

allocating, for signal transmission, each of a plurality of frequency sub-bands of an ultra-wide band spectrum; and

sending an ultra-wide band transmission comprising the information over the ultra-wide band spectrum, comprising sending a signal over each of the plurality of sub-bands.

2. The method of claim 1, comprising wirelessly sending the ultra-wide band transmission.

3. The method of claim 1, wherein sending the signals comprises sending pulsed signals.

4. The method of claim 1, wherein sending the signals comprises sending burst symbol cycle transmissions.

5. The method of claim 4, wherein each burst comprises sequenced bits of information.

6. The method of claim 4, wherein each burst comprises symbols, and wherein each symbol comprises a sequence that maps to one or more bits of information.

7. The method of claim 1, wherein sending the signals comprises sending a different waveform over each sub-band.

8. The method of claim 7, wherein each of the different waveforms is used to represent different information.

9. The method of claim 1, wherein sending the signals comprises sending more than one waveform over a single sub-band at a given time.

10. The method of claim 1, wherein sending the signals comprises sending substantially identical waveforms over each of several of the sub-bands.

11. The method of claim 1, wherein sending the ultra-wide band signal comprises transmitting over only a single sub-band at a given time.

12. The method of claim 11, wherein sending the ultra-wide band signal comprises switching between different sub-bands.

13. The method of claim 12, wherein the switching is performed after each symbol is transmitted.

14. The method of claim 12, wherein the switching is performed after several symbols are transmitted.

15. The method of claim 12, wherein the switching is performed after one or more symbols are transmitted and an OFF period.

16. The method of claim 1, comprising allocating one or more of the sub-bands based on information to be transmitted.

17. The method of claim 1, comprising allocating one or more of the sub-bands based on a pseudo-random sequence.

18. A method for receiving information, the method comprising:

allocating, for signal reception, each of a plurality of frequency sub-bands of an ultra-wide band spectrum; and

receiving an ultra-wide band transmission comprising the information over the ultra-wide band spectrum, comprising receiving a signal over each of the plurality of sub-bands.

19. The method of claim 18, wherein receiving the signals comprises receiving the ultra-wide band transmission and tracking the signal timing using the relation between the sub-bands phases and the signal timing.

20. The method of claim 19, wherein tracking the timing comprises tracking the sub-bands phases using a single radio chain.

21. The method of claim 18, wherein receiving the signals comprises receiving burst symbol cycle transmissions.

22. The method of claim 1, comprising transmitting information at a bit rate of 100 MBPS or higher.

23. A method for communicating information, the method comprising:

allocating, for signal transmission, each of a plurality of frequency sub-bands of an ultra-wide band spectrum;

sending an ultra-wide band transmission comprising the information over the ultra-wide band spectrum, comprising sending a signal over each of the plurality of sub-bands; and

receiving the ultra-wide band transmission comprising the information over the ultra-wide band spectrum, comprising receiving the signals.

24. The method of claim 23, wherein sending the signals comprises sending burst symbol cycle transmissions.

25. The method of claim 24, wherein the OFF period is used to reduce power consumption in the receiver and transmitter.

26. The method of claim 23, wherein allocating the sub-bands comprising allocating sub-bands that at least partially overlap.

27. The method of claim 23, wherein sending the signals comprises generating the signals using an analog technique.

28. The method of claim 23, wherein sending the signals comprises generating the signals using a digital technique.

29. The method of claim 23, wherein sending the ultra-wide band signal comprises:

converting a first data signal containing information into one or more encoded signals using an Inverse Fast Fourier Transform; and

converting the encoded signal into an encoded ultra-wide band signal comprising burst symbol cycles.

30. The method of claim 29, wherein sending the signals comprises sending a different waveform over each sub-band.

31. The method of claim 29, wherein sending the signals comprises sending more than one waveform over a single sub-band at a given time.

32. The method of claim 29, wherein sending the ultra-wide band signal comprises transmitting over only a single one of the sub-bands at a given time.

33. The method of claim 29 wherein sending the ultra-wide band signal comprises switching between sub-bands.

34. The method of claim 33, wherein the switching is performed after each symbol is transmitted.

35. The method of claim 33, wherein the switching is performed after several symbols are transmitted.

36. The method of claim 33, wherein the switching is performed after one or more symbols are transmitted and an OFF period.

37. The method of claim 36, wherein the OFF period is used to reduce power consumption in the receiver and transmitter.

38. The method of claim 29, wherein the narrowband signal comprises an OFDM signal with a cyclic prefix.

39. The method of claim 29, wherein the narrowband signal comprises an OFDM signal with a gap and/or cyclic prefix.

40. The method of claim 29, comprising performing energy collecting and/or inter carrier interference mitigation by at least one of using parallel receivers, providing a gap between the OFDM symbols, cyclic prefix and using the tail of the symbol generated by multi-path in the channel.

41. The method of claim 23, wherein sending the ultra-wide band signal comprises:

converting a first data signal containing information into one or more encoded signals using an Inverse Fast Fourier Transform; and

converting the encoded signal into an encoded pulsed ultra-wide band signal.

42. The method of claim 41, wherein sending the signals comprises sending a different waveform over each sub-band.

43. The method of claim 41 wherein sending the signals comprises sending more than one waveform over a single sub-band at a given time.

44. The method of claim 41, wherein sending the ultra-wide band signal comprises transmitting over only a single one of the sub-bands at a given time.

45. The method of claim 41 wherein sending the ultra-wide band signal comprises switching between sub-bands in which pulses are transmitted.

46. The method of claim 45, wherein the switching is performed after each symbol is transmitted.

47. The method of claim 45, wherein the switching is performed after several symbols are transmitted.

48. The method of claim 45, wherein the switching is performed after one or more symbols are transmitted and an OFF period.

49. The method of claim 48, wherein the OFF period is used to reduce power consumption in the receiver and transmitter.

50. The method of claim 41, wherein the narrowband signal comprises an OFDM signal with a cyclic prefix.

51. The method of claim 41, wherein the narrowband signal comprises an OFDM signal with a gap and/or cyclic prefix.

52. The method of claim 41, comprising performing energy collecting and/or inter carrier interference mitigation by at least one of using parallel receivers, providing a gap between the OFDM symbols, cyclic prefix and using the tail of the symbol generated by multi-path in the channel.

53. The method of claim 41, comprising determining a bandwidth of each of a plurality of bands used by the second signal by a narrow pulse width.

54. A system for communicating information, the system comprising:

allocating, for signal transmission, each of a plurality of frequency sub-bands of an ultra-wide band spectrum;

a transmitter for sending an ultra-wide band transmission comprising the information over the ultra-wide band spectrum, comprising sending a signal over each of the plurality of sub-bands; and

a receiver for receiving the ultra-wide band transmission comprising the information over the ultra-wide band spectrum, comprising receiving the signals.

55. The system of claim 54, wherein sending the signals comprises sending burst symbol cycle transmissions.

56. A method for communicating information, comprising:

converting a first data signal containing information into an encoded signal using an Inverse Fast Fourier Transform;

converting the encoded signal into an encoded ultra-wide band signal comprising burst symbol cycles; and

decoding the encoded ultra-wide band signal using a Fast Fourier Transform to obtain the information.

57. A method for communicating information, comprising:

converting a first data signal containing information into an encoded signal using an Inverse Fast Fourier Transform;

converting the encoded signal into an encoded pulsed ultra-wide band signal; and

decoding the encoded pulsed ultra-wide band signal using a Fast Fourier Transform to obtain the information.

58. A method for transmitting information, the method comprising:

after modulation of a narrowband signal, translating the narrowband signal containing the information into a second signal containing the information, the second signal being a wider band signal than the narrowband signal, and the narrowband signal and the second signal comprising the same modulated waveform.

59. The method of claim 58, wherein the method is used in generating a single band ultra-wide band signal.

60. The method of claim 58, wherein the method is used in generating a sub-band of a multiband ultra-wide band signal.

61. The method of claim 60, comprising transmitting for a first period of time of each of a series of burst symbol cycles, one or more bits of the information, and comprising suspending transmission for a second period of time of each of the series of burst symbol cycles.

62. The method of claim 61, wherein transmitting one or more bits of the information comprises transmitting one or more bits of the information using a carrier based signal.

63. The method of claim 61, wherein transmitting one or more bits of the information comprises transmitting one or more bits of the information using a carrierless signal.

64. The method of claim 61, comprising, during a second period of time of each of the series of cycles, transmitting information, and wherein each of the series of cycles consists of the first period and the second period.

65. The method of claim 61, comprising, during a second period of time of each of the series of cycles, re-transmitting at least one of the one or more bits of the information.

66. The method of claim 61, comprising, during a second period of time of each of the series of cycles, transmitting information other than the information contained by the narrowband signal.

67. The method of claim 58, wherein the narrowband signal comprises an OFDM signal with a cyclic prefix.

68. The method of claim 58, wherein the narrowband signal comprises an OFDM signal with a gap and/or cyclic prefix.

69. A method for transmitting information, the method comprising:

transmitting, for a first period of time of each of a series of cycles, one or more bits of the information at a faster rate than a rate at which the one or more bits information would be transmitted if the one or more bits of information were transmitted using the narrowband signal.

70. The method of claim 69, wherein translating a narrowband signal into a second signal comprises widening the narrowband signal to form a widened signal and then multiplying the widened signal by a burst symbol cycle signal.

71. The method of claim 69, comprising translating a narrowband signal into a second signal, and wherein translating the narrowband signal into the second signal comprises multiplying the narrowband signal by a carrier based signal.

72. The method of claim 69, comprising translating a narrowband signal into a second signal, and wherein translating the narrowband signal into the second signal comprises multiplying the narrowband signal by a carrierless signal.

73. The method of claim 69, comprising translating a narrowband signal into a second signal, and wherein translating the narrowband signal into the second signal comprises translating the narrowband signal into an ultra-wide band signal.

74. A method for transmitting information, the method comprising translating a narrowband signal into a second signal by multiplying the narrowband signal by a wideband burst symbol cycle signal.

75. The method of claim 74, wherein the narrowband signal comprises an OFDM signal with a cyclic prefix.

76. The method of claim 74, wherein the narrowband signal comprises an OFDM signal with a gap and/or cyclic prefix.

77. The method of claim 74, comprising determining a bandwidth of each of a plurality of bands used by the second signal by a narrow pulse width.

78. The method of claim 74, wherein translating a narrowband signal into a second signal comprises multiplying the narrowband signal by a carrier based signal.

79. The method of claim 74, wherein translating a narrowband signal into a second signal comprises multiplying the narrowband signal by a carrierless signal.

80. The method of claim 74, wherein translating a narrowband signal into a second signal comprises translating the narrowband signal into an ultra-wide band signal.